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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,312	08/10/2005	Manuel Da-Silva	262149US6XPCT	6730

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EXAMINER	
TRAN, BINH Q	

ART UNIT	PAPER NUMBER
3748	

NOTIFICATION DATE	DELIVERY MODE
01/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/517,312	DA-SILVA ET AL.	
	Examiner	Art Unit	
	BINH Q. TRAN	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/17/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Receipt and entry of Applicant's Preliminary Amendment dated December 17, 2004 is acknowledged.

Specification

The disclosure is objected to because of the following informalities: The following headings of the specification are missing, such as

- ***Background of the Invention.***

- ***Brief Summary of the Invention.*** Appropriate correction is required.

This application does not contain a ***Brief description of the drawing(s)*** as required by 37 FR 1.74.

This application does not contain a ***Detailed description of the drawing(s)*** as required by 37 FR 1.74. Appropriate correction is required

This application does not contain an ***abstract of the disclosure*** as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Applicant is reminded of the proper content of an abstract of the disclosure.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, **such as "means" and "said," should be avoided.** The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

Claim 23 is objected to because of the following informalities:

-In claim 23, line 1, ***"Claim 23"***should be changed to –Claim 13--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 13-22, and 24 are rejected under 35 U.S.C. 102 (b) as being anticipated by Araki et al. (Araki) (Patent Number 5,941,066).

Regarding claims 13, and 24, Araki discloses a method of regeneration of a motor vehicle particle filter (5), in which means for regeneration of the filter are used as soon as a load value of the filter exceeds a predetermined threshold, comprising: making a calculation of a parameter representing operating conditions (e.g. 20, N, L E, T, A K) of the means for regeneration; and controlling operation of the means for regeneration in accordance with a value of the parameter (e.g. See col. 3, lines 38-67; col. 4, lines 1-67; col. 9, lines 1-52).

Regarding claims 14, Araki further discloses wherein the parameter is calculated continuously while the vehicle is running (e.g. See col. 3, lines 38-67; col. 4, lines 1-30).

Regarding claims 15, Araki further discloses wherein the making a calculation of the parameter is made during use of the means for regeneration (e.g. See col. 3, lines 38-67; col. 4, lines 1-30).

Regarding claims 16, Araki further discloses wherein the parameter representing operating conditions of the means for regeneration includes a ratio between flow of exhaust gases emanating from an engine of the vehicle and mass of soot burned during use of the means for regeneration over a predetermined period of time (e.g. See col. 4, lines 8-67; col. 5, lines 1-52).

Regarding claims 17, Araki further discloses wherein the parameter representing operating conditions of the means for regeneration includes a ratio between instantaneous flow of exhaust gases and rate of combustion of soot (e.g. See col. 4, lines 8-67; col. 5, lines 1-52).

Regarding claims 18, Araki further discloses wherein the controlling operation of the means for regeneration is controlled by a comparison between the value of the parameter and at least one threshold value stored in memory (e.g. See col. 4, lines 8-67; col. 5, lines 1-52).

Regarding claims 19, Araki further discloses wherein the flow of exhaust gases is extracted from a map stored in memory in a central computer managing operation of the engine of the vehicle (e.g. See col. 4, lines 8-67; col. 5, lines 1-52).

Regarding claims 20, Araki further discloses wherein the mass of soot burned is extracted from the map stored in memory in the central computer (e.g. See col. 4, lines 8-67; col. 5, lines 1-52).

Regarding claims 21, Araki further discloses wherein the mass of soot burned is determined from the mass of soot previously burned and a rate of regeneration of the filter (e.g. See col. 4, lines 8-67; col. 5, lines 1-52).

Regarding claims 22, Araki further discloses wherein the rate of regeneration of the filter is extracted from a map stored in memory in a central computer managing operation of the engine of the vehicle, depending on internal temperature of the particle filter (e.g. See col. 4, lines 8-67; col. 5, lines 1-52).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Araki in view of Shinzawa et al. (Shinzawa) (Patent Number 5,319,930).

Regarding claim 23, Hitomi discloses all the claimed limitation as discussed above except that wherein the internal temperature Tfαp of the particle filter is calculated from equation: Tfαp = αTe+(1-α)*Ts, in which Te designates inlet temperature of the particle filter; Ts designates outlet temperature of the particle filter; and α designates a coefficient worked out as a function of the difference between the inlet temperature Te and the outlet temperature Ts, based on a mapped function in the central computer.

Shinzawa teaches that it is conventional in the art, to a computer to calculate the internal temperature Tfαp of the particle filter from equation: Tfαp = αTe+(1-α)*Ts, in which Te designates inlet temperature of the particle filter; Ts designates outlet temperature of the particle filter; and α designates a coefficient worked out as a function of the difference between the inlet temperature Te and the outlet temperature Ts, based on a mapped function in the central computer (e.g. See col. 13, lines 10-67; col. 14, lines 1-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to use a computer to calculate the internal temperature Tfαp of the particle filter from equation: Tfαp = αTe+(1-α)*Ts, in which Te designates inlet temperature of the particle filter; Ts designates outlet temperature of the particle filter; and α designates a coefficient worked out as a function of the difference between the inlet temperature Te and the outlet temperature Ts, based on a mapped function in the central computer of Araki, as taught by Shinzawa for the purpose of controlling temperature of the particulate filter more precisely, so as to reduce the poisoned

materials in the particulate filter, and further improve the performance of the engine and the efficiency of the emission system.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Itoh et al. (Pat. No. 6786041), Hirota et al. (Pat. No. 6644022), Ono et al. (Pat. No. 6438948), Inoue et al. (Pat. No. 6928809), and Nakatani et al. (Pat. No. 6820418) all discloses an exhaust gas purification for use with an internal combustion engine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are-(571) 273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT
January 04, 2008

Binh Q. Tran
Patent Examiner
Art Unit 3748